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ABSTRACT

Reported are data on exceptional children in U.S. schools, collected through a U.S. Office of Education survey (spring 1970), which sampled 2,000 of the 81,000 U.S. public schools having enrollments of more than 300 pupils. It is estimated that of the 44,389,000 total public school pupils enrolled at the time of survey, 4,752,000 or one tenth were handicapped. Reported are the following handicapping conditions and incidences in order of prevalence (percentage of total pupils for each handicap is in parenthesis): speech impairment (4%), learning disabilities (2.6%), mental retardation (2.1%), emotional disturbance (1.2%); and physical, sensory, hearing, and visual handicaps (0.3% for each category). Included is a table giving number of pupils with handicaps in public schools, percent of enrollment, number and percent of pupils served (by handicapping condition, type, and school level). Data shows 72% of the handicapped to have been in elementary schools and 22% in secondary schools. A second table gives total enrollment and number of handicapped pupils by school level, and type of handicap. It is estimated that 63% of handicapped pupils received one or more services in elementary school through separate classes, special instruction from regular teachers in regular classes, or individualized instruction from professional personnel. Appendixes cover methodology, definitions of terms used in the questionnaire, and sampling reliability and tables. (MC)

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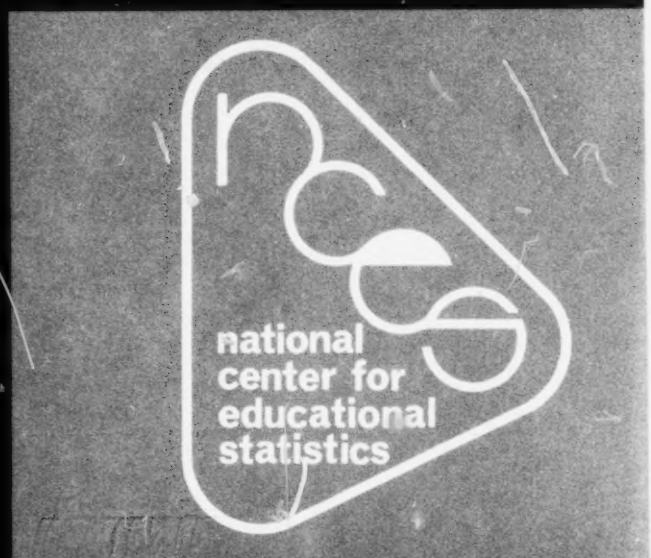

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Number of Pupils With Handicaps in Local Public Schools Spring 1970

A. Stafford Metz
Educational Manpower Statistics Branch

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Caspar W. Weinberger, *Secretary*

Education Division
S.P. Marland, Jr., *Assistant Secretary for Education*

Office of Education
John R. Ottina, *Acting Commissioner*

National Center for Educational Statistics
Dorothy M. Gilford, *Assistant Commissioner for Educational Statistics*

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FOREWORD

The statistical information on the number of handicapped pupils in public schools summarized in this publication was developed by the U.S. Office of Education's National Center for Educational Statistics for, and in cooperation with, the U.S. Office of Education's Bureau of Education for the Handicapped.

This is one of a series of reports on the provision of instruction to handicapped pupils in local public schools. Two additional summary reports will present statistics on teachers of the handicapped and on modes of instruction provided handicapped children. A third report will present basic statistics on each of the nine handicaps for which data were collected.

Partial data on the handicapped from the 1970 School Staffing Survey have appeared in several earlier sources, including Mental Retardation Source Book of the Department of Health, Education, and Welfare, DHEW Publication No. (OS) 73-81; Estimates and Projections of Special Target Group Populations in Public Elementary and Secondary Schools, prepared by Joseph Froomkin, Inc., for the President's Commission on School Finance; and "Numbers of Pupils with Specific Learning Disabilities in Local Public Schools in the United States: Spring 1970," appearing in "Minimal Brain Dysfunction," volume 205 of the Annals of the New York Academy of Sciences.

The data in this report were collected in the 1970 survey, which was developed and directed by Leslie J. Silverman and A. Stafford Metz of NCES' Educational Manpower Statistics Branch, under the supervision of Boyd Ladd, Assistant Director for Statistical Development. The sample design, estimation procedures, data collection, and tabulation were conducted under contract by Westat, Inc., Rockville, Md. Subsequent analysis was carried out under contract by the Research Triangle Institute, Research Triangle, N.C.

In addition to partial financial support tor the part of the 1970 School Staffing Survey which produced data for this report, the Bureau of Education for the Handicapped provided its professional staff, who contributed significantly to both the design of the survey and the analysis of the data. We are grateful to the many public school principals who took time from their very busy days to complete the questionnaires and to the coordinator in each State department of education who made the data collection possible.

Leslie J. Silverman, Chief
Educational Manpower Statistics Branch

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INTRODUCTION

An estimated 4,752,000 pupils in locally operated public schools in the United States in spring 1970 were handicapped, according to responses by a sample of school principals. These handicapped pupils represented over one-tenth of the total public school enrollment of about 44,389,000 pupils at that time (table 1). This estimate of the total number of public school handicapped pupils may be somewhat larger than the actual number due to possible duplication in reporting. 1/ In contrast, the estimated number of pupils for each of the nine specific handicaps (discussed below) are not subject to duplication.

The most prevalent handicapping condition reported was speech impairment--an estimated 1,793,000 pupils or about 4.0 percent of all pupils enrolled. Other sizable categories of handicapping conditions were learning disability, an estimated 1,160,000 pupils (2.6 percent of total enrollment); mental retardation, 936,000 pupils (2.1 percent of total enrollment); and emotional disturbance, 556,000 pupils (1.2 percent of all pupils).

Relatively few crippled pupils and pupils with sensory handicaps--partial or total hearing impairment and partial or total visual impairment--were reported as enrolled in local public schools. Each accounted for 0.3 percent or less of the total public school enrollment.

These data come from responses given by principals of local public schools in the United States to a survey of numbers of and provisions for instruction to handicapped pupils. The survey, conducted by the U.S. Office of Education (USOE) in spring 1970, sampled about 2,000 local public schools representative of the 81,000 such schools in the United States in schools districts with an enrollment of 300 or more pupils.

1/ Principals reported separately the number of pupils in each of nine handicapping conditions. They were not asked to give the total number of pupils with any handicapping condition. Instead, the USOE summed these for each school. The actual total number and percent of handicapped pupils reported will be somewhat less than the totals presented (see footnote d/, table 1). The larger than actual totals reported here result from some principals reporting the same pupils in more than one category of handicap. For example, following local usages, a principal might have reported the same pupil as both emotionally disturbed and learning disabled. Students may also have both visual and hearing impairments, or some other combination of handicaps. Such pupils are duplicated in the total. Any effect on the total from duplication of multiple handicapped pupils would be small, because a spring 1968 pilot survey found that only about 1 percent of handicapped pupils had multiple handicaps.

Table 1.--Number of pupils with handicaps in local public schools, percent of enrollment, and number and percent of handicapped pupils served, by type of handicap and by school level: 50 States and D.C., spring 1970

Type of handicap	Handicapped pupils		Handicapped pupils served a/	
	Number	Percent of total enrollment b/	Number	Percent of handicapped pupils
All schools c/				
Total.....	d/4,752,000	d/10.7	2,968,000	62.5
Speech impaired.....	1,793,000	4.0	1,224,000	68.3
Learning disabled.....	1,160,000	2.6	648,000	55.9
Mentally retarded.....	936,000	2.1	728,000	77.8
Emotionally disturbed..	556,000	1.2	253,000	45.5
Hard of hearing.....	131,000	0.3	41,000	31.7
Deaf.....	23,000	0.1	21,000	90.5
Crippled.....	82,000	0.2	30,000	36.6
Partially sighted.....	64,000	0.1	17,000	26.7
Blind.....	6,000	*	6,000	94.0
Elementary schools				
Total.....	d/3,438,000	d/13.8	2,233,000	65.0
Speech impaired.....	1,520,000	6.1	1,072,000	70.6
Learning disabled.....	779,000	3.1	465,000	59.8
Mentally retarded.....	606,000	2.4	453,000	74.8
Emotionally disturbed..	371,000	1.5	173,000	46.6
Hard of hearing.....	71,000	0.3	20,000	28.8
Deaf.....	18,000	0.1	18,000	97.5
Crippled.....	40,000	0.2	17,000	41.7
Partially sighted.....	30,000	0.1	11,000	36.8
Blind.....	3,000	*	3,000	99.3
Secondary schools				
Total.....	d/1,045,000	d/5.9	606,000	58.0
Speech impaired.....	198,000	1.1	104,000	52.5
Learning disabled.....	314,000	1.8	172,000	54.8
Mentally retarded.....	257,000	1.4	218,000	84.7
Emotionally disturbed..	160,000	0.9	70,000	44.1
Hard of hearing.....	50,000	0.3	21,000	41.2
Deaf.....	3,000	*	2,000	54.7
Crippled.....	36,000	0.2	11,000	31.3
Partially sighted.....	24,000	0.1	5,000	21.1
Blind.....	3,000	*	3,000	93.2

a/ Handicapped pupils receiving instruction or assistance from 1 or more of the following: separate (special) classes, special instruction from regular teachers in regular classes, individualized instruction from specialized professional personnel.

b/ Enrollment: total--44,389,000; elementary schools--24,321,000; secondary schools--17,802,000 (the remaining 2,265,000 pupils were in combined schools).

c/ Includes handicapped pupils in combined schools with both elementary and secondary grades not included in detail by school level.

d/ The actual total numbers and percents of handicapped pupils may be somewhat less than the figures presented because in some cases the same handicapped pupils may have been reported in more than one category.

* Percent greater than zero but less than 0.05.

The population of public schools sampled was stratified on three characteristics: school level, school location, and enrollment size. Special schools which limited their enrollment to handicapped pupils and were operated by local public school systems had the same chance of selection into the sample as did all other schools of the same level, location, and enrollment size. Private schools, State-operated schools, and schools operated by intermediate school districts were not included in the survey.

Information was obtained on nine types of handicapping conditions: speech impairment, learning disability, mental retardation, emotional disturbance, partial hearing impairment, deafness, cripplement, partial sightedness, and blindness. (See appendix A for details of the survey methodology.)

AT WHAT SCHOOL LEVEL ARE MOST HANDICAPPED PUPILS ENROLLED?

Seventy-two percent of all handicapped pupils in local public schools were in elementary schools--proportionately more than the 55 percent total enrollment in these schools. Only 22 percent of handicapped pupils were in secondary schools, compared to 40 percent of the total enrollment in secondary schools. The remaining 6 percent of the handicapped pupils were in combined elementary-secondary schools, which accounted for 5 percent of total enrollment (table 2).

Eighty-five percent of pupils with speech impairments--a larger percentage than for any other handicapped group--were enrolled in elementary schools. About two-thirds of the learning disabled, mentally retarded, and emotionally disturbed were in elementary schools. Among the deaf, 79 percent were enrolled in elementary schools. About half of the other sensory and physically handicapped groups were enrolled in elementary schools.

Table 2.--Total enrollment and number of handicapped pupils in local public schools, by school level and by type of handicap: 50 States and D.C., spring 1970

Type of handicap	All schools		Elementary schools		Secondary schools		Combined schools a/	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
All pupils	44,389,000	100	24,321,000	55	17,802,000	40	2,265,000	5
Total handicapped pupils	b/4,752,000	100	b/3,438,000	72	b/1,045,000	22	b/269,000	6
Speech impaired	1,793,000	100	1,520,000	85	198,000	11	76,000	4
Learning disabled	1,160,000	100	779,000	67	314,000	27	67,000	6
Mentally retarded	936,000	100	606,000	65	257,000	28	73,000	8
Emotionally disturbed	556,000	100	371,000	67	160,000	29	25,000	5
Hard of hearing	131,000	100	71,000	54	50,000	38	10,000	8
Deaf	23,000	100	18,000	79	3,000	13	2,000	8
Crippled	82,000	100	40,000	49	36,000	44	5,000	6
Partially sighted	64,000	100	30,000	47	24,000	37	10,000	16
Blind	6,000	100	3,000	51	3,000	45	*	4

a/ Schools with both elementary and secondary grades.

b/ The actual total numbers and percent of handicapped pupils may be somewhat less than the figures presented because in some cases the same handicapped pupils may have been reported in more than one category.

* Number greater than zero but less than 500.

NOTE.--Detail may not equal totals due to rounding.

HOW DO RATES OF HANDICAPPED PUPILS COMPARE BETWEEN ELEMENTARY AND SECONDARY SCHOOLS?

Overall, the estimated prevalence rate of handicapped pupils (number of handicapped as a percent of enrollment) for elementary schools was greater than for secondary schools--13.8 percent of total enrollment compared to 5.9 percent (table 1). More than half of this difference in rates was due to the considerably greater prevalence of speech impaired pupils in elementary than in secondary schools, 6.1 compared to 1.1 percent.

The prevalence rates of learning disablement, mental retardation, and emotional disturbance were slightly greater in elementary than in secondary schools. The rates for the sensory and physical handicaps surveyed were similar for elementary and secondary schools.

WHAT PROPORTIONS OF HANDICAPPED PUPILS RECEIVE SPECIAL INSTRUCTION OR ASSISTANCE?

Principals in the sample were asked if the handicapped pupils in their schools received: (1) instruction in separate (special) classes, (2) special instruction from regular teachers in regular classes, or (3) individualized instruction from specialized professional personnel.

Overall, an estimated 63 percent of all handicapped pupils received one or more of the three forms of special instruction (table 1). Considerable variation in the proportion reported to have received special service was found among the types of handicap. About half of the learning disabled and emotionally disturbed were served, two-thirds of the speech impaired, and over three-fourths of the mentally retarded (table 1). For the sensory handicapped, almost all deaf and blind pupils in local public schools received special instruction. Relatively small proportions of the crippled, hard of hearing, and partially sighted did, 37 percent or less.

Handicapped pupils in elementary schools were somewhat more likely to be served than those in secondary schools. The largest difference was for the speech impaired, with 71 percent in elementary schools receiving special attention compared to 53 percent in secondary schools. The difference for the learning disabled and emotionally disturbed was minimal. The mentally retarded in secondary schools, in contrast, were more likely than those in elementary schools to receive special instruction or assistance.

For the sensory handicapped, the largest difference was for the deaf--virtually all elementary school pupils with this handicap received one or more of the designated forms of special help, but only about 55 percent of secondary schools' deaf pupils received such help.

APPENDIX A
GENERAL METHODOLOGY

Source of Data

The source of data for this report is the School Staffing Survey conducted in the spring of 1970 by the National Center for Educational Statistics, U.S. Office of Education (OE), with support from OE's National Center for the Improvement of Educational Systems and the Bureau of Education for the Handicapped. The former National Center for Educational Research and Development supported the spring 1969 pilot survey, which preceded the 1970 survey.

Design of the Survey

Data on handicapped pupils were collected in spring 1970 from a survey sample of 1,996 public elementary and secondary schools, representative of the Nation's 81,000 local public schools, by 3 strata: school level--elementary and secondary; school location--large cities (the 130 cities with 100,000 or more population as of the 1960 census), the metropolitan areas surrounding these cities, and all other areas of the 50 States and the District of Columbia; and enrollment size--5 groups.

This was a subsample of the total School Staffing Survey sample of 4,400 schools. Schools in systems enrolling fewer than 300 pupils were excluded from the survey. These systems contained about 10 percent of all schools but less than 2 percent of all pupils in public schools. Approximately 85 percent of the 1,996 schools in this subsample returned useable forms and are the basis for estimates of the populations of schools and pupils.

The data in this report were gathered from school principals or from a member of the principal's immediate staff.

Example of Questions Asked

The same questions were asked for all nine types of handicaps. The questions, using specific learning disabilities as an example, are listed on pages 7 and 8.

PUPILS WITH SPECIFIC LEARNING DISABILITIES[1]

A. Are there currently any special classes in this school, for PUPILS WITH SPECIFIC LEARNING DISABILITIES?

Yes... ☐

No.... ☐ → (Skip to G)

PUPILS RECEIVING ALL THEIR INSTRUCTION IN SPECIAL (OR SEPARATE) CLASSES

B. Are there currently any pupils in this school who receive ALL their instruction (with the possible exception of physical education) in separate (or special) classes for PUPILS WITH SPECIFIC LEARNING DISABILITIES? (Do not include here pupils who receive only part of their instruction in separate classes. Record them in C below.)

Yes... ☐ → Number of pupils in these classes.._____

No.... ☐

PUPILS RECEIVING PART OF THEIR INSTRUCTION IN SEPARATE CLASSES[2]

C. Are there any pupils currently enrolled in this school who receive only part of their instruction in separate classes in this school, for PUPILS WITH SPECIFIC LEARNING DISABILITIES?

Yes... ☐ → Number of pupils in these classes.._____

No.... ☐

D. Are there any pupils currently enrolled in another school who come to this school especially to receive part of their instruction in separate classes for PUPILS WITH SPECIFIC LEARNING DISABILITIES? (Pupils are enrolled elsewhere, come here part-time for separate classes.)

Yes... ☐ → Number of pupils from another school in these classes.....____

No.... ☐

PROFESSIONAL STAFF INSTRUCTING IN SEPARATE CLASSES[2]

E. How many professional staff now instruct in these separate classes for PUPILS WITH SPECIFIC LEARNING DISABILITIES (indicated in B through D)?

Number instructing full-time in these classes.....____

Number instructing part-time in these classes.....____

If any part-time staff are reported above, continue with F otherwise, skip to G.

F. If one or more professional staff instruct part-time in these classes, what is the total number of "days per week" spent by all these staff members instructing part-time in these classes?

Total days per week.....____

---

1) PUPILS WITH SPECIFIC LEARNING DISABILITIES exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders in listening, thinking, talking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantages.

INDIVIDUALIZED INSTRUCTION IN THIS SCHOOL[2)]

G. Are there any PUPILS WITH SPECIFIC LEARNING DISABILITIES currently enrolled in this school who receive individualized special instruction for PUPILS WITH SPECIFIC LEARNING DISABILITIES in regular classes from regular teachers?

Yes... ☐ → Number of pupils....._____

No.... ☐ → (Skip to I)

H. How many regular teachers in regular classes provide individualized special instruction to the pupils recorded in G above?

Number of regular teachers....._____

I. Are there any PUPILS WITH SPECIFIC LEARNING DISABILITIES currently enrolled in this school who regularly receive individualized special instruction or assistance (not in separate classes) from specialized professional personnel <u>other than</u> a regular classroom teacher?

Yes... ☐ → Number of pupils....._____

No.... ☐ → (Skip to K)

J. How many specialized professional personnel have as a <u>regular assignment</u> the provision of individualized special <u>instruction or assistance</u> to the pupils recorded in I above?

Number of specialized professional personnel....._____

PROVISIONS FOR <u>SPECIAL</u> INSTRUCTION OUTSIDE OF THIS SCHOOL[2)]

K. Are there any pupils currently <u>enrolled in this school</u> who attend another school and/or agency to receive <u>individualized</u> special instruction or to attend <u>separate classes</u> for PUPILS WITH SPECIFIC LEARNING DISABILITIES?

Yes... ☐ → Number of pupils....._____

No.... ☐

OTHER PUPILS WITH SPECIFIC LEARNING DISABILITIES[2)]

L. Are there any other PUPILS WITH SPECIFIC LEARNING DISABILITIES currently <u>enrolled in this school</u> who have not been reported in questions B through K above?

Yes... ☐ → Number of pupils....._____

No.... ☐

TOTAL NUMBER OF PUPILS WITH SPECIFIC LEARNING DISABILITIES[3)]

M. What is the <u>Total Number</u> of PUPILS WITH SPECIFIC LEARNING DISABILITIES currently <u>enrolled in this school</u>? (Include those for whom no special instruction or assistance is provided, but do not include pupils enrolled in another school as reported in D.)

Number of pupils....._____

---

2) Pupils and staff can be counted in more than one instructional situation. For example, if a pupil is part-time in separate classes and also receives individualized instruction in regular classes, he should be counted in both places.

3) The total number of pupils reported in "M" is not necessarily equal to the sum of all pupils reported in "B" through "L" above, since the same pupils may be counted in more than one place.

APPENDIX B

DEFINITIONS OF SELECTED TERMS USED IN THE QUESTIONNAIRE

PUPILS WITH SPEECH IMPAIRMENTS have unusual difficulty in oral communication and require specialized instruction.

PUPILS WITH SPECIFIC LEARNING DISABILITIES exhibit a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language. These may be manifested in disorders in listening, thinking, talking, reading, writing, spelling, or arithmetic. They include conditions which have been referred to as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, developmental aphasia, etc. They do not include learning problems which are due primarily to visual, hearing, or motor handicaps, to mental retardation, emotional disturbance, or to environmental disadvantages.

MENTALLY RETARDED PUPILS' level of mental development is such that these pupils have been identified by professionally qualified personnel as unable, without special help, to benefit from the usual school program.

EMOTIONALLY DISTURBED PUPILS have been identified by professionally qualified personnel as having an emotional handicap of such a nature and severity as to require one or more special services, whether or not such services are available.

HARD OF HEARING PUPILS' hearing is sufficiently impaired as to require specialized instruction.

DEAF PUPILS are those with severe or profound loss of hearing.

CRIPPLED PUPILS have physical impairments which might restrict normal opportunity for education or self-support. This term is generally considered to include individuals having impairments caused by congenital anomaly (e.g., cleft palate, clubfoot, absence of some member, etc.), impairments caused by disease (e.g., poliomyelitis, bone tuberculosis, cerebral palsy, etc.), and impairments caused by accidents (e.g., fractures or burns which cause contractures).

A PARTIALLY SIGHTED PUPIL'S sight is sufficiently impaired as to require specialized instruction.

BLIND PUPILS are those with severe or profound loss of vision.

APPENDIX C
SAMPLING RELIABILITY AND TABLES

Because the data in this report are derived from a sample, they are subject to sampling variability. The sampling error is a measure of sampling variability such that the chances are about 2 in 3 that an estimate from the sample would differ from the result of a survey of all schools, using the same procedures, by less than the sampling error. The sampling error does not include systematic error or bias in the data such as might affect the data in any complete survey. These notes describe the method for deriving estimates of sampling reliability for data presented in this report.

Table A shows estimates of relative sampling errors, in percent, for estimates of numbers of handicapped pupils by level of school.

The estimated relative sampling error varies according to the percentage of schools at a given level that is estimated to have handicapped pupils. This percent, obtained from table B or C, determines the appropriate column in table A from which to read the sampling error of an estimate.

Table B shows the estimated percentage of schools in each level that had handicapped pupils. Table C shows the estimated percentage of schools in each level that provided special instruction to handicapped pupils.

These percentages of schools are used in conjunction with the data from tables 1 and 2 (on pages 2 and 4) for selection of the appropriate relative sampling errors from table A.

Example: sampling error for number of pupils with specified handicaps.

Consider in table 1 the number of pupils with learning disabilities in the "all schools" category. This estimate is 1,160,000. From appendix table B it is found that, for this estimate of pupils with learning disabilities, an estimated 52 percent of all 81,000 schools had any pupils with specific learning disabilities. Turning to appendix table A, one finds that an estimate of the total number of pupils with specific learning disabilities in the "all schools" category is subject to an estimated relative sampling error of 5.2 percent when 50 percent of the schools in this category (the figure closest to 52 percent) report any pupils with specific learning disabilities. The relative sampling error in this example, 5.2 percent, when applied to the estimate of 1,160,000 pupils with specific learning disabilities (.052 x 1,160,000) gives a sampling error of about 60,000 pupils.

Example: sampling error for number of pupils receiving special instruction or assistance

Consider in table 1 the number of emotionally disturbed pupils in the "all schools" category who received special instruction or assistance. This estimate is 253,000 emotionally disturbed pupils. From appendix table C it is found that this estimated number of emotionally disturbed pupils in the "all schools" category was reported by an estimated 25

percent of all 81,000 schools. From appendix table A it is found that an estimate of the total number of emotionally disturbed pupils in the "all schools" category is subject to an estimated relative sampling error of 8.1 percent when 25 percent of all 81,000 schools had any emotionally disturbed pupils receiving special instruction or assistance. The relative sampling error in this example, 8.1 percent, when applied to the estimate of 253,000 emotionally disturbed pupils in the "all schools" category receiving special instruction or assistance (.081 x 253,000) gives a sampling error of about 20,500 pupils.

Sampling errors for estimated percents of pupils with handicaps and percent of handicapped pupils receiving special instruction can be estimated according to the following procedures:

For percents less than 20 use the relative errors in table A.

Example: sampling error for percent of pupils with handicaps

Consider in table 1 the percent of pupils in elementary schools with speech impairments. The estimate is 6.1 percent (1,520,000 speech impaired pupils as a percent of the 24,321,000 enrollment in elementary schools). From appendix table B it is found that an estimated 91 percent of all 56,900 elementary schools reported the 1,520,000 speech impaired pupils from which the figure of 6.1 percent of speech impaired pupils in elementary schools was derived. From appendix table A it is found that an estimate of the percent of speech impaired pupils in elementary schools is subject to an (estimated) relative sampling error of 3.7 percent when 100 percent of all elementary schools (the figure closest to 91 percent) report any pupils with speech impairments. The relative sampling error in this example, 3.7 percent, when applied to the estimate of pupils with speech impairment in elementary schools, 6.1 percent (.037 x .061), gives a sampling error of 0.2 percent.

For percents greater than 20 use:

$$\text{Relative error } \left(\frac{X}{Y}\right) = \sqrt{(\text{relative error of } X)^2 - (\text{relative error } Y)^2}.$$

Example: sampling error for a percent of handicapped pupils receiving special instruction

Consider in table 1 the percent of mentally retarded pupils in secondary schools receiving special instruction. This estimate is 84.7 percent (218,000 mentally retarded pupils receiving special instruction (X) as a percent of the 257,000 pupils that are mentally retarded (Y)). An estimated 47 percent of secondary schools provided special instruction to handicapped pupils (table C) while an estimated 60 percent of secondary schools had mentally retarded pupils (table B). The values for the relative sampling errors obtained from table A by interpolation

are approximately X = 7.7 and Y = 6.4. The relative sampling error of the ratio is computed to be 4.2 percent ($\sqrt{(.077)^2 - (.064)^2}$). The relative error, 4.2 percent, when applied to the estimated percent of mentally retarded pupils in secondary schools receiving special instruction (.042 x .847), gives a sampling error of 3.6 percent.

Table A.--Estimated relative sampling errors, in percent, for estimates of numbers of handicapped pupils or numbers of handicapped pupils receiving special instruction or assistance, by level of school

Level and location of school	Estimated percent of schools reporting the item					
	5	10	25	50	75	100
All schools.....	19.4	13.5	8.1	5.2	3.7	2.7
Elementary schools.....	26.9	18.7	11.2	7.1	5.1	3.7
Secondary schools.....	27.1	18.8	11.3	7.2	5.2	3.7

Table B.--Estimated percent of schools reporting handicapped pupils, by level of school (for use with table A to obtain estimates of relative sampling errors)

Type of handicap	All schools	Elementary schools	Secondary schools
	(percent of schools)		
Speech impaired.....	85	91	68
Learning disabled.....	52	56	40
Mentally retarded.....	60	58	60
Emotionally disturbed.....	47	49	45
Hard of hearing.....	34	34	35
Deaf.....	5	5	5
Crippled.....	36	33	41
Partially sighted.....	22	19	26
Blind.....	4	3	7

Table C.--Estimated percent of schools providing special instruction or assistance to handicapped pupils, by level of school (for use with table A to obtain estimates of relative sampling errors)

Type of handicap	All schools	Elementary schools	Secondary schools
	(percent of schools)		
Speech impaired.....	68	77	44
Learning disabled.....	34	40	21
Mentally retarded.....	46	45	47
Emotionally disturbed.....	25	26	23
Hard of hearing.....	13	15	11
Deaf.....	4	4	2
Crippled.....	10	10	10
Partially sighted.....	10	9	11
Blind.....	3	3	6

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